

c. Amendments to Claims

1. (currently amended) A method for transmitting a stream of digital data values, comprising:

modulating a carrier wave to carry symbols representative of successive digital data values, symbols representative of successive ones of the digital data values interfering more in the modulated carrier wave than in a reference wave transmitting the same symbol rate as the modulated carrier wave, the modulated carrier wave having a narrower spectral width than the reference wave, the reference wave being produced by modulating the same carrier wave with one of the digital data values at a time and having an effective symbol rate more than twice as great as the modulated carrier wave; and

wherein the modulating a carrier wave includes amplitude modulating the carrier wave with a non-return-to-zero waveform whose amplitude is sequentially defined from successive values of the symbols.

2 – 4. (canceled)

5. (original) The method of claim 1, wherein the digital data values are data bits.

6. (currently amended) A method of transmitting a stream of digital data values, comprising:

generating a stream of symbols by processing the digital data values with a partial response function defined by $[1 + \sum_{i=1}^K Z^{-i}]$, the integer K being greater than one, ~~and the functions Z^{-i} delay~~ ~~delaying~~ the digital data values by the integer i times the period between successive ones of the digital data values; and

modulating a carrier wave with the generated stream of symbols; and

wherein the modulating includes amplitude modulating the carrier wave with a non-return-to-zero waveform whose amplitude is sequentially defined by a sequence of the symbols.

7 - 9. (canceled)

10. (original) The method of claim 6, wherein the integer K is odd.

11. (original) The method of claim 6, wherein the digital data values are data bits.

12. (currently amended) A transmitter of digital data, comprising:

a modulator having an input for a carrier signal and an input for a first stream of symbols representative of digital data values, the modulator to modulate the carrier signal with sequential values of symbols of a second stream, each symbol of the second stream being a sum of the present symbol of the first stream and the last K symbols of the first stream, the integer K being greater than one; and

wherein the modulator processes the symbols of the first stream with a partial response function defined by $[1 + \sum_{i=1}^K Z^{-i}]$, the functions Z^{-i} delay symbols by the integer i times the period between successive ones of the input symbols; and

wherein the modulator modulates the carrier signal with a non-return-to-zero waveform whose amplitude is sequentially defined by the sequence of symbols in the second stream.

13 - 14. (canceled)

15. (original) The transmitter of claim 12, wherein the modulator is configured to modulate an optical carrier.

16. (original) A ~~The~~ transmitter of claim 15, digital data, comprising:

a modulator having an input for an optical carrier beam and an input for a first stream of symbols representative of digital data values, the modulator to modulate the carrier beam with sequential values of symbols of a second stream, each symbol of the second stream being a sum of the present symbol of the first stream and the last K symbols of the first stream, the integer K being greater than one; and

wherein the modulator modulates the optical carrier beam with a non-return-to-zero waveform whose amplitude is sequentially defined by the sequence of symbols in the second stream.

17. (original) The transmitter of claim 12, wherein the integer K is odd.

18. (original) The transmitter of claim 12, wherein the digital data values are data bits.

19 – 29. (canceled)

30. (new) The transmitter of claim 16, wherein the integer K is odd.

31. (new) The transmitter of claim 16, wherein the digital data values are data bits.

32. (new) The transmitter of claim 31, further comprising:

a precoder being configured to produce each symbol of the first stream from a corresponding input digital data bit, the precoder being configured to produce one of the symbols of the first stream by performing an exclusive OR of the input digital data bit corresponding to the one of the symbols and a bit value dependent on one or more of previous ones of the symbols of the first stream.

33. (new) The transmitter of claim 12, further comprising:

a precoder being configured to produce each symbol of the first stream from a corresponding input digital data bit, the precoder being configured to produce one of the symbols of the first stream by performing an exclusive OR of the input digital data bit corresponding to the one of the symbols and a bit value dependent on one or more of previous ones of the symbols of the first stream.